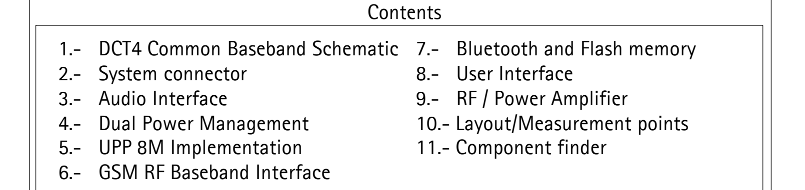
NOKIA	CONFIDENTIAL		1(11)
Customer Care Europe & Africa	DCT4 Common Baseband Schematic	Version 4.0 Approved	
SCCE Training Group	NPE-4 (6310)	(PCB) Version_ac 4 a_14	
	08.08.2002		


Contents

KEY_UI lois_41 — LCDUI(2:0), KEYB(10:0), GENIO(52:0), UIDRV(5:0), PWRONX, SLOWAD(6:0), DIFDATA(7:0), DIFCTRL(3:0), MIC(2:0), EAR(1:0), PUSL(3:0) — Components: 300-349

Components: 356-385

LPRF lois — RFCONVCTRL(2:0), PUSL(3:0), AUDUEMCTRL(5:0), LPRFCLK, GENIO(52:0) — Components: 130-149

RF_BB gsm_4.1 — SLOWAD(6:0), RFCONV(9:0), RFAUXCONV(2:0), LPRFCLK, RFCLK, RFCLKGND, RFAUX(1:0), GENIO(52:0), PUSL(3:0), RFICCNTRL(2:0) — Components: 420-439

SLOWAD_O(6:0), RFCONV_O(9:0), RFAUXCONV_O(2:0), LPRFCLK_I, RFCLK_I, RFCLKGND_I, RFAUX_O(1:0), GENIO_O(52:0), PUSL_O(3:0), RFICCNTRL_O(2:0)

AUDIO lois_4.1 — PUSL(3:0), HOOKINT, EAR(1:0), GENIO(52:0), HEADINT, UIDRV(5:0), MIC(2:0), SLOWAD(6:0), XMIC(2:0), XAUDIO(17:0), XEAR(3:0), AUDIO(6:0), IHF(1:0), AUDUEMCTRL(5:0) — AUDIO Components: 150-199, ANCO Components: 170-199

POWER dual_4.0 — PWRONX, UIDRV(5:0), XAUDIO(17:0), AUDIO(6:0), IHF(1:0), SLOWAD(6:0), ACCDIF(2:0), CHARGER(4:0), RFCONV(9:0), RFAUXCONV(2:0), GENIO(52:0), RFCONVCTRL(2:0), RFCONVDA(5:0), AUDIODATA(3:0), AUDUEMCTRL(5:0), IACCDIF(5:0), PUSL(3:0), SIMIF(3:0), SIM2MMCIF(3:0), IRIF(2:0) — POWER Components: 200-299, STEPUP Components: 260-269, DC/DC Components: 270-299

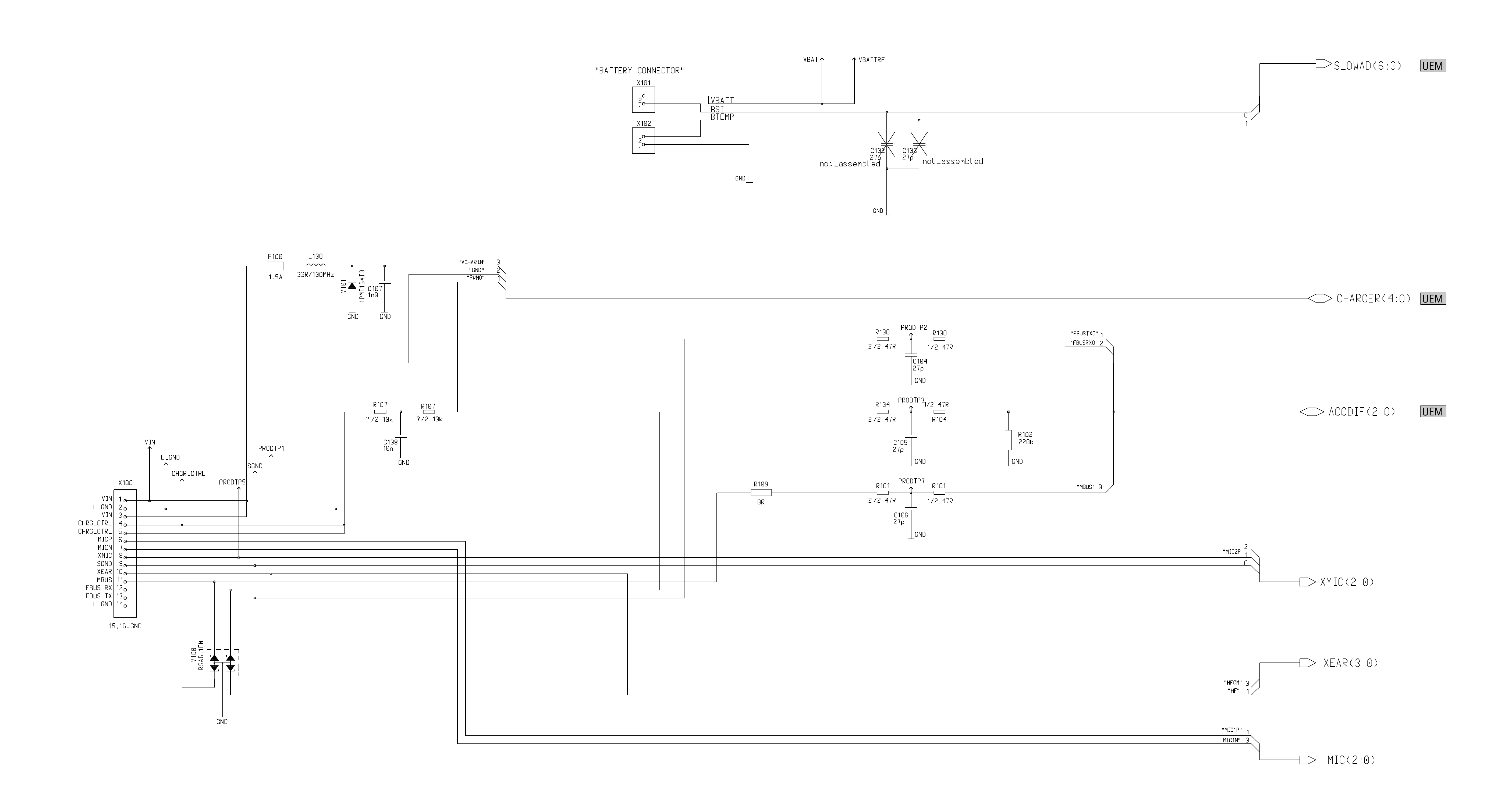
UPP/UPPE basic8m — CCP(4:0), LCDUI(2:0), KEYB(10:0), GENIO(52:0), DIFDATA(7:0), DIFCTRL(3:0), RFCONVCTRL(2:0), RFCONVDA(5:0), AUDIODATA(3:0), AUDUEMCTRL(5:0), IACCDIF(5:0), PUSL(3:0), USB_DIG(6:0), RFCLK, RFCLKGND, RFICCNTRL(2:0), MEMADDA0(15:0), MEMADDA1(15:0), MEMAD(24:16), MEMCONT(15:0), SDRAD(15:0), SDRDA(15:0), SDRCTRL(8:0), DSP_MCUTEST(2:0), ETM(21:0) — Components: 400-419

MEMORY amd64mbit — MEMADDA0(15:0), MEMADDA1(15:0), MEMAD(24:16), MEMCONT(15:0), GENIO(52:0) — Components: 450-469

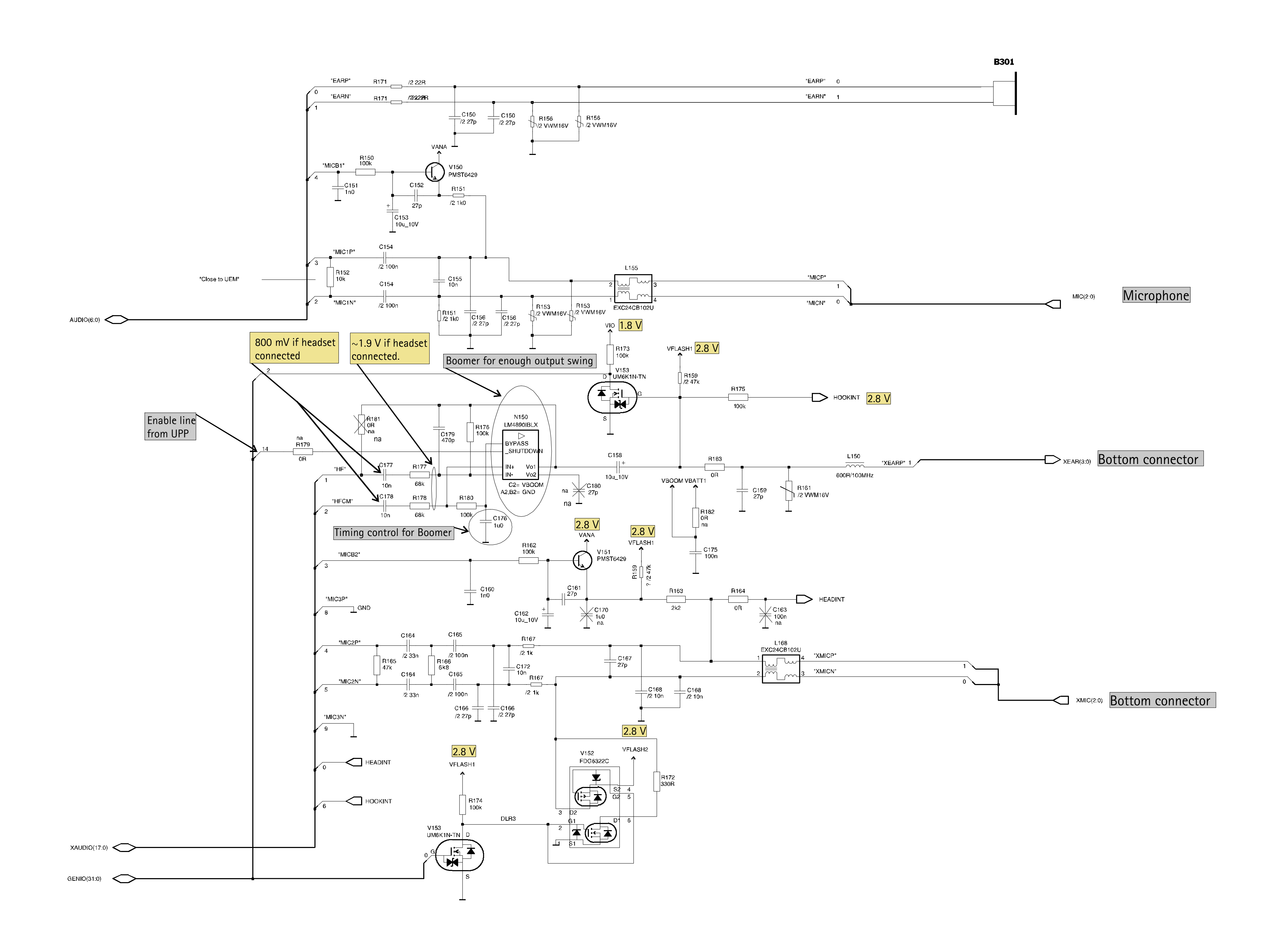
SYS_CONN lois — FMANT, PWRONX, HOOKINT, HEADINT, RFAUX(1:0), MIC(2:0), XMIC(2:0), XEAR(3:0), UIDRV(5:0), SLOWAD(6:0), ACCDIF(2:0), CHARGER(4:0), IACCDIF(5:0), GENIO(52:0), DSP_MCUTEST(2:0), SIMIF(3:0), USB_DIG(6:0) — SYS_CONN Components: 100-129, HEADSET Components: 120-129

IR module — IRIF(2:0), IACCDIF(5:0), GENIO(52:0) — Components: 350-355

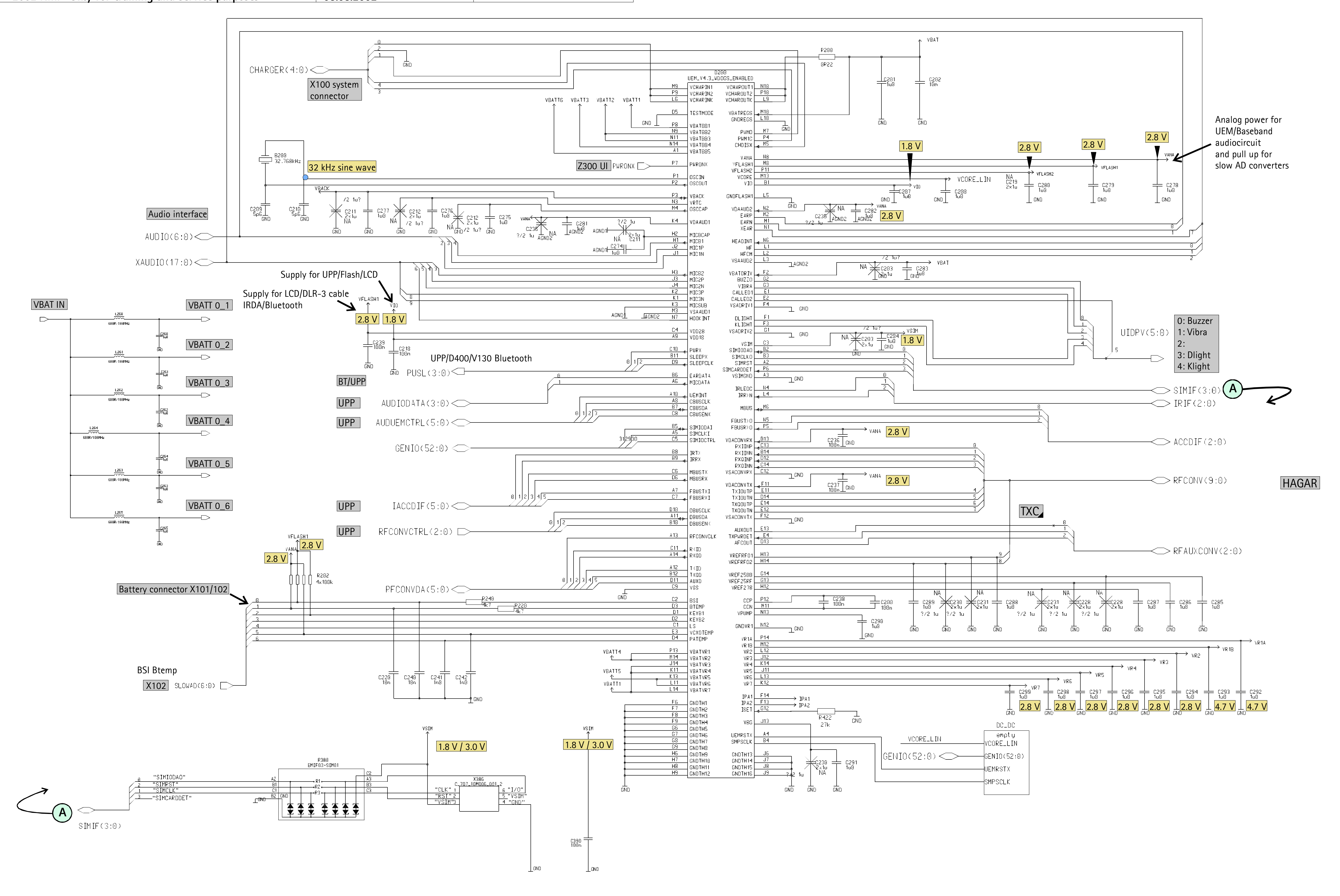
SIM lois — SIMIF(3:0), SIM2MMCIF(3:0), GENIO(52:0) — Components: 386-395



"BATTERY CONNECTOR"
X101
X102
VBAT
VBATTRF
VBATT
BSI
BTEMP
C102 27p
C103 27p
not_assembled
GND
SLOWAD(6:0)
UEM
F100 1.5A
L100 33R/100MHz
V101 1PMT16AT3
C107 1n0
"VCHARIN"
"GND"
"PWMO"
CHARGER(4:0)
R100 2/2 47R
PRODTP2
1/2 47R
C104 27p
"FBUSTXO"
"FBUSRXO"
R107 ?/2 10k
C108 10n
R104 2/2 47R
PRODTP3
C105 27p
R102 220k
ACCDIF(2:0)
R109 0R
R101 2/2 47R
PRODTP7
1/2 47R
C106 27p
"MBUS"
X100
VIN
L_GND
CHRG_CTRL
MICP
MICN
XMIC
SGND
XEAR
MBUS
FBUS_RX
FBUS_TX
15,16=GND
PRODTP1
PRODTP5
V100 RSA6.1EN
"MIC2P"
XMIC(2:0)
"HFCM"
"HF"
XEAR(3:0)
"MIC1P"
"MIC1N"
MIC(2:0)

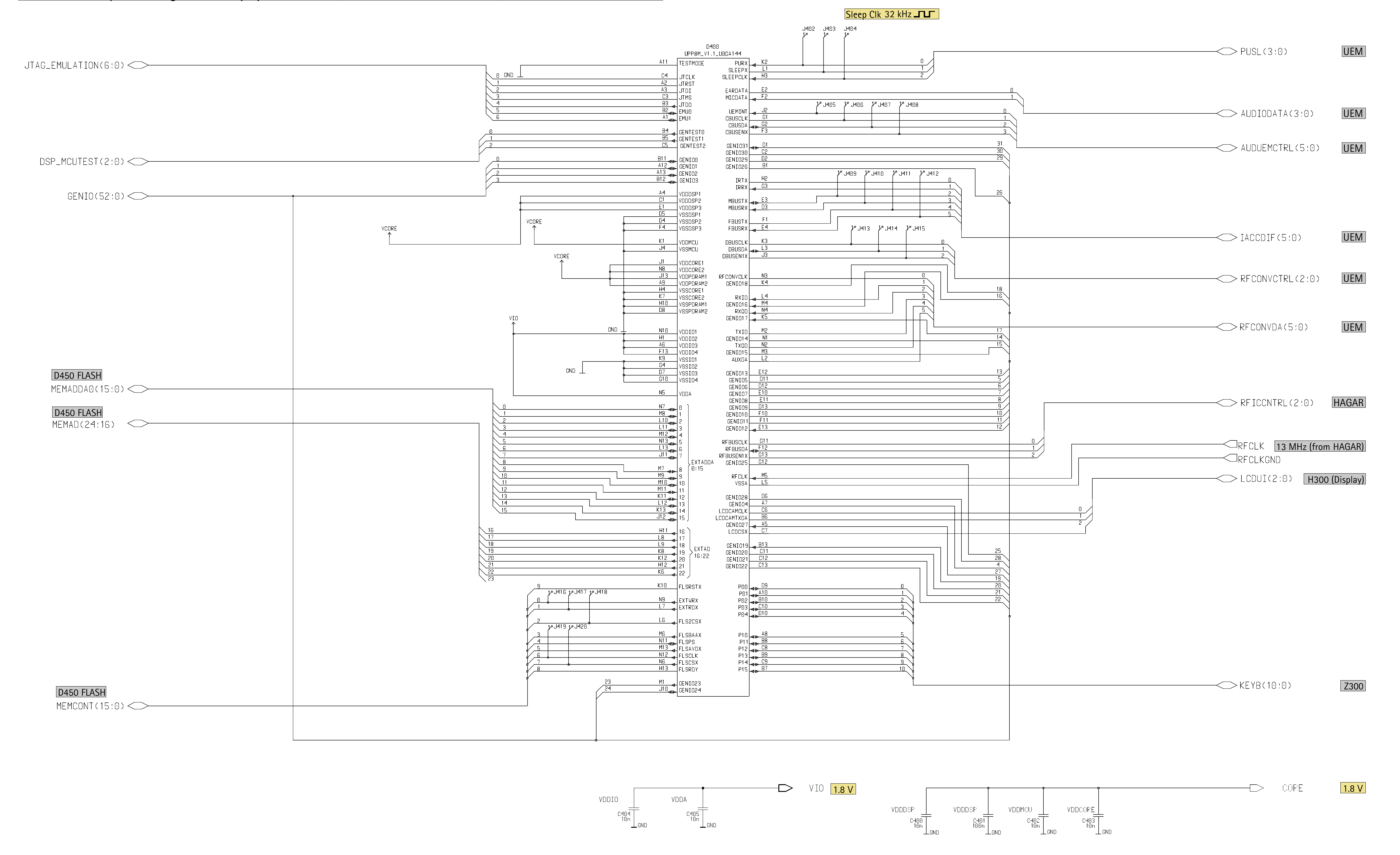


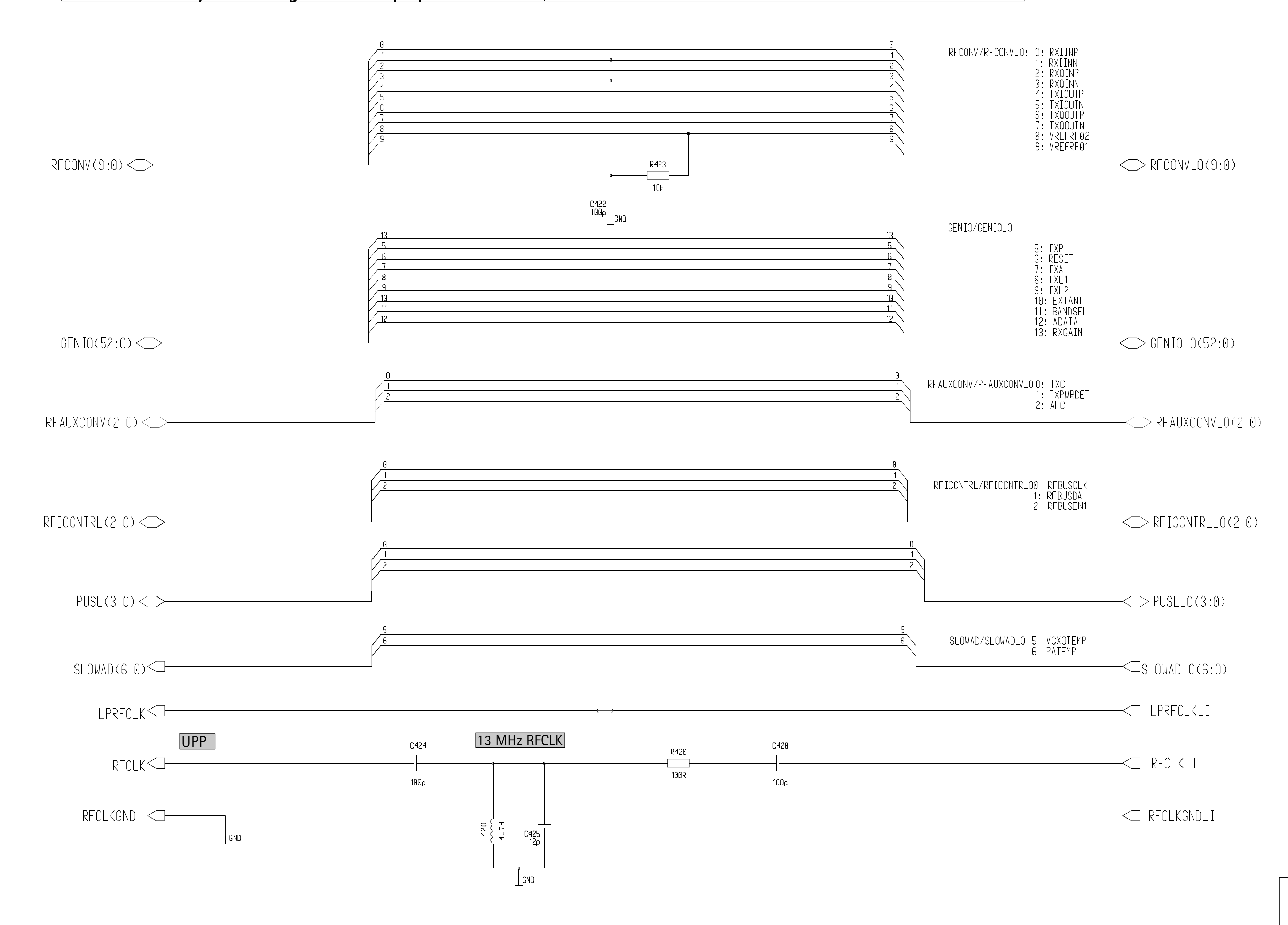
B301
"EARP"
"EARN"
VANA
"MICB1"
V150
PMST6429
"MIC1P"
"MIC1N"
"Close to UEM"
AUDIO(6:0)
L155
EXC24CB102U
"MICP"
"MICN"
MIC(2:0)
Microphone
VIO
1.8 V
800 mV if headset connected
~1.9 V if headset connected.
Boomer for enough output swing
VFLASH1
2.8 V
V153
UM6K1N-TN
HOOKINT
Enable line from UPP
N150
LM4890IBLX
BYPASS
_SHUTDOWN
"HF"
"HFCM"
VBOOM VBATT1
L150
600R/100MHz
"XEARP"
XEAR(3:0)
Bottom connector
Timing control for Boomer
"MICB2"
V151
PMST6429
HEADINT
"MIC3P"
GND
"MIC2P"
"MIC2N"
"MIC3N"
L168
EXC24CB102U
"XMICP"
"XMICN"
XMIC(2:0)
Bottom connector
V152
FDC6322C
VFLASH2
DLR3
XAUDIO(17:0)
GENIO(31:0)



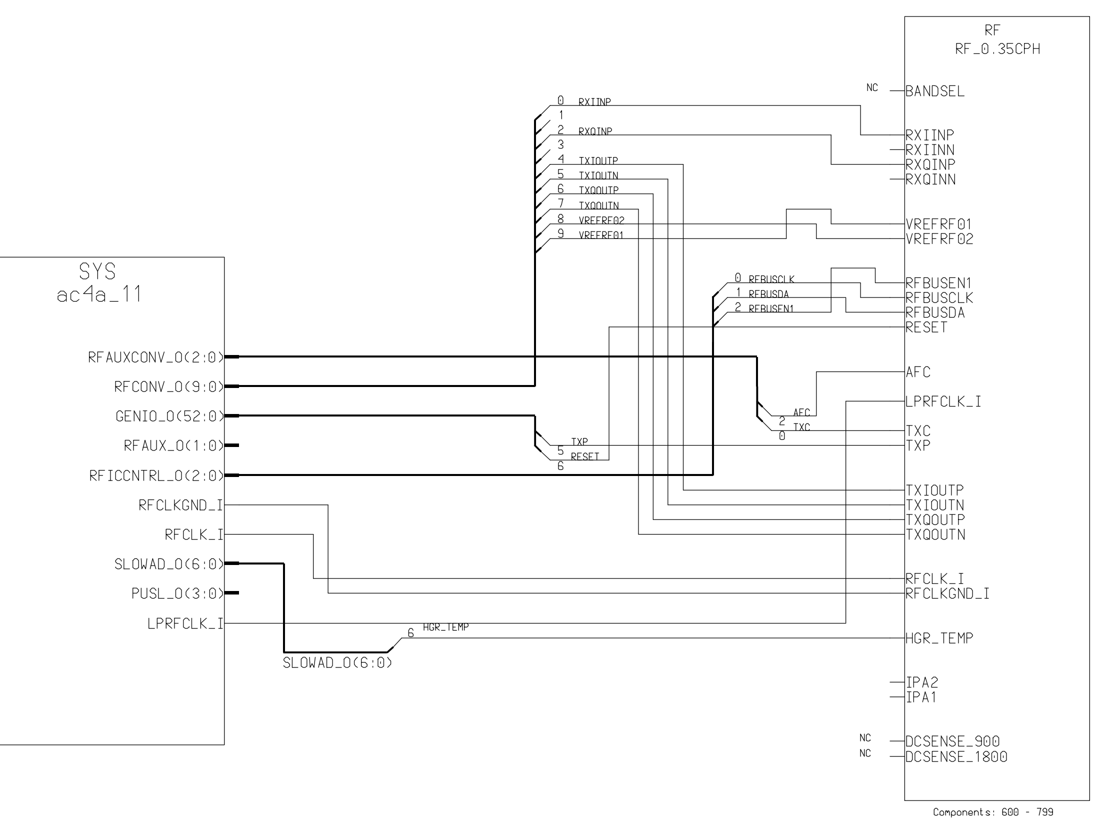
CHARGER(4:0)
X100 system connector
32 kHz sine wave
Z300 UI
Audio interface
AUDIO(6:0)
XAUDIO(17:0)
Supply for UPP/Flash/LCD
Supply for LCD/DLR-3 cable IRDA/Bluetooth
VBAT IN
VBATT 0_1
VBATT 0_2
VBATT 0_3
VBATT 0_4
VBATT 0_5
VBATT 0_6
2.8 V
1.8 V
UPP/D400/V130 Bluetooth
PUSL(3:0)
BT/UPP
UPP
AUDIODATA(3:0)
AUDUEMCTRL(5:0)
GENIO(52:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
PFCONVDA(5:0)
Battery connector X101/102
BSI Btemp
X102
SLOWAD(6:0)
Analog power for UEM/Baseband audiocircuit and pull up for slow AD converters
UIDPV(5:0)
0: Buzzer
1: Vibra
2:
3: Dlight
4: Klight
SIMIF(3:0)
IRIF(2:0)
ACCDIF(2:0)
RFCONV(9:0)
HAGAR
TXC
RFAUXCONV(2:0)
VCORE_LIN
4.7 V
1.8 V / 3.0 V
DC_DC
empty
VCORE_LIN
GENIO(52:0)
UEMRSTX
SMPSCLK
A

NOKIA	CONFIDENTIAL		5(11)
Customer Care Europe & Africa	UPP 8M Implementation	Version 4.0 Approved	
SCCE Training Group	NPE-4 (6310)	(PCB) Version_ac 4 a_14	
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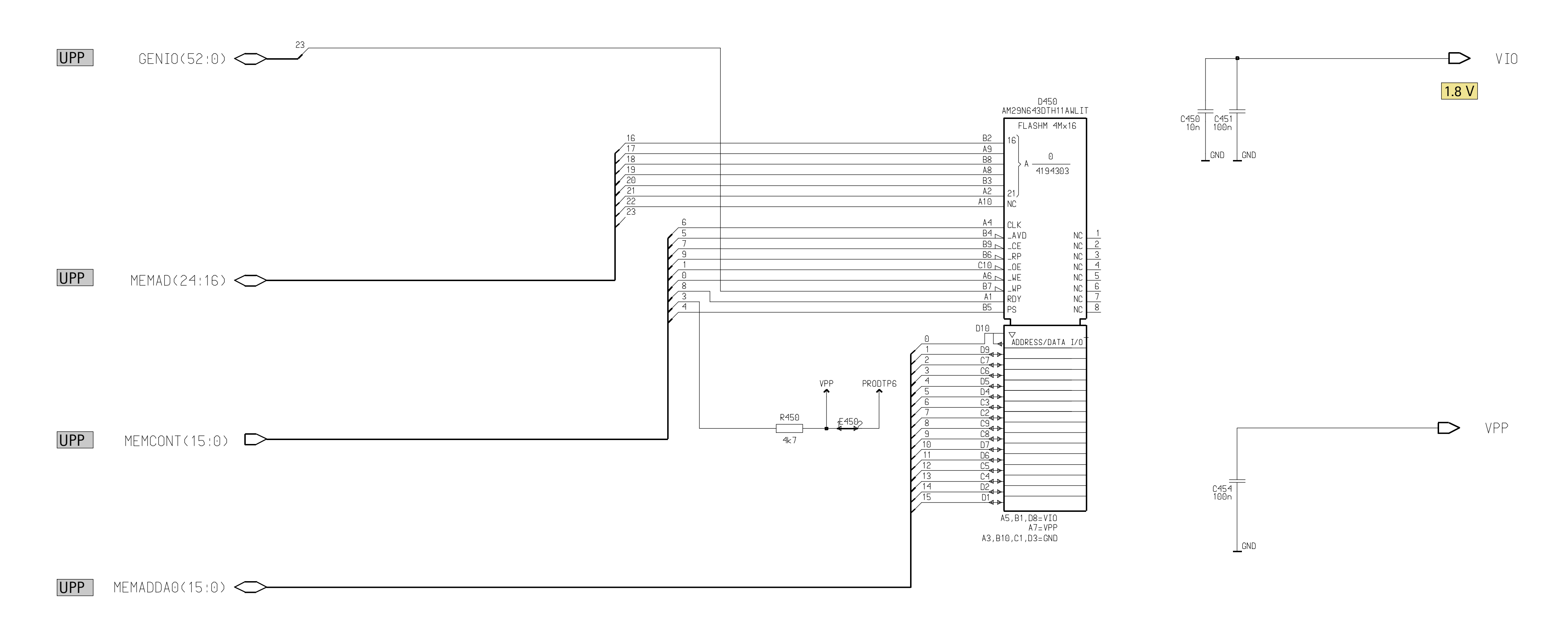




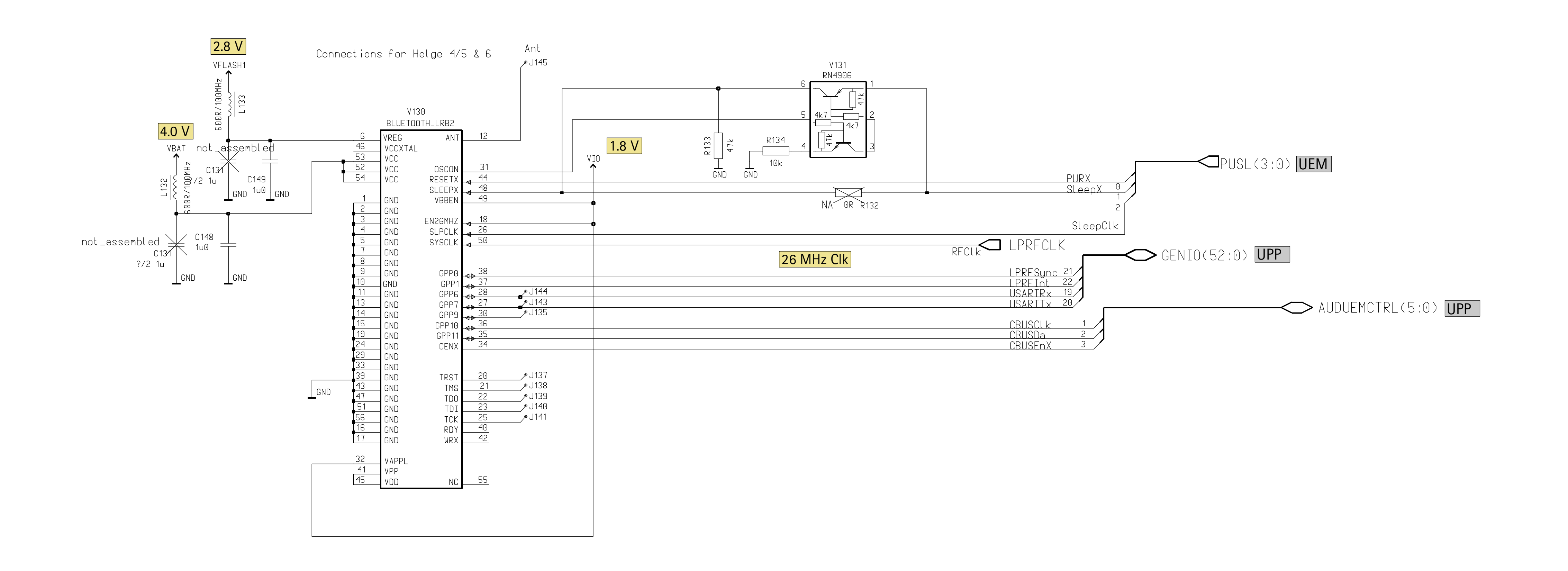
RFCONV(9:0)
RFCONV_O(9:0)
RFCONV/RFCONV_O: 0: RXIINP
1: RXIINN
2: RXQINP
3: RXQINN
4: TXIOUTP
5: TXIOUTN
6: TXQOUTP
7: TXQOUTN
8: VREFRF02
9: VREFRF01
R423
10k
C422
100p
GND
GENIO/GENIO_O
5: TXP
6: RESET
7: TXA
8: TXL1
9: TXL2
10: EXTANT
11: BANDSEL
12: ADATA
13: RXGAIN
GENIO(52:0)
GENIO_O(52:0)
RFAUXCONV/RFAUXCONV_O 0: TXC
1: TXPWRDET
2: AFC
RFAUXCONV(2:0)
RFAUXCONV_O(2:0)
RFICCNTRL/RFICCNTR_O 0: RFBUSCLK
1: RFBUSDA
2: RFBUSEN1
RFICCNTRL(2:0)
RFICCNTRL_O(2:0)
PUSL(3:0)
PUSL_O(3:0)
SLOWAD/SLOWAD_O 5: VCXOTEMP
6: PATEMP
SLOWAD(6:0)
SLOWAD_O(6:0)
LPRFCLK
LPRFCLK_I
UPP
13 MHz RFCLK
RFCLK
RFCLK_I
C424
100p
R420
100R
C420
100p
L420
4u7H
C425
12p
GND
RFCLKGND
RFCLKGND_I



SYS
ac4a_11
RFAUXCONV_O(2:0)
RFCONV_O(9:0)
GENIO_O(52:0)
RFAUX_O(1:0)
RFICCNTRL_O(2:0)
RFCLKGND_I
RFCLK_I
SLOWAD_O(6:0)
PUSL_O(3:0)
LPRFCLK_I
RF
RF_0.35CPH
NC
BANDSEL
RXIINP
RXIINN
RXQINP
RXQINN
VREFRF01
VREFRF02
RFBUSEN1
RFBUSCLK
RFBUSDA
RESET
AFC
LPRFCLK_I
TXC
TXP
TXIOUTP
TXIOUTN
TXQOUTP
TXQOUTN
RFCLK_I
RFCLKGND_I
HGR_TEMP
IPA2
IPA1
DCSENSE_900
DCSENSE_1800
Components: 600 - 799

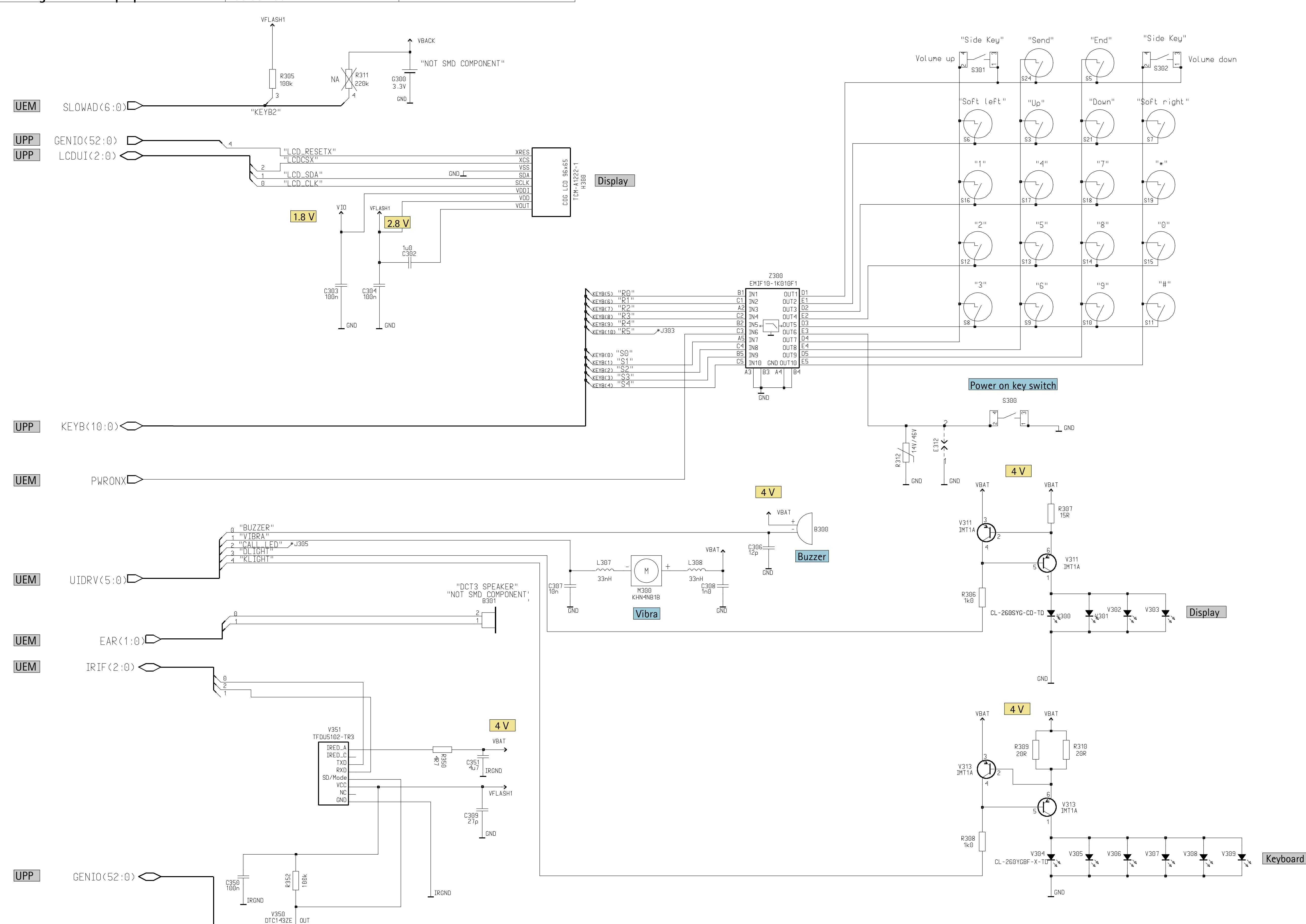


UPP
GENIO(52:0)
UPP
MEMAD(24:16)
UPP
MEMCONT(15:0)
UPP
MEMADDA0(15:0)
D450
AM29N643DTH11AWLIT
FLASHM 4Mx16
ADDRESS/DATA I/O
R450
4k7
VPP
PRODTP6
A5,B1,D8=VIO
A7=VPP
A3,B10,C1,D3=GND
VIO
1.8 V
C450
10n
C451
100n
GND
VPP
C454
100n



2.8 V
VFLASH1
4.0 V
VBAT
not_assembled
Connections for Helge 4/5 & 6
Ant
J145
V130
BLUETOOTH_LR82
V131
RN4906
1.8 V
VIO
R133
47k
R134
10k
GND
PURX
SleepX
SleepClk
PUSL(3:0)
UEM
LPRFCLK
RFClk
26 MHz Clk
GENIO(52:0)
UPP
LPRFSync
LPRFInt
USARTRx
USARTTx
AUDUEMCTRL(5:0)
UPP
CBUSClk
CBUSDa
CBUSEnX
C148
1u0
C149
1u0
L132
L133
600R/100MHz

 08.08.2002


UEM SLOWAD(6:0)
UPP GENIO(52:0)
UPP LCDUI(2:0)
Display
1.8 V
2.8 V
UPP KEYB(10:0)
UEM PWRONX
Power on key switch
4 V
Buzzer
UEM UIDRV(5:0)
Vibra
"DCT3 SPEAKER"
"NOT SMD COMPONENT"
UEM EAR(1:0)
UEM IRIF(2:0)
Display
4 V
Keyboard
UPP GENIO(52:0)
"Side Key" Volume up
"Send"
"End"
"Side Key" Volume down
"Soft left"
"Up"
"Down"
"Soft right"

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Customer Care Europe & Africa	RF / Power Amplifier	Version 4.0 Approved	
SCCE Training Group	NPE-4 (6310)	(PCB) Version_ac 4 a_14	
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LNA_P RX PCN

VANT_2 (TX_GSM)

VANT_1 (TX_PCN)

RX 1800

RX 900

TX 900

TX 1800

3400-3840 MHz

2.8V 4.7V 2.8V

VR3 VR1A VR5 VR4 VR6

N600 HAGAR_5

N840

RXTINP RXQTINP

VREFRFO2 VREFRFO1

RFBUSEN1 RFBUSCLK RFBUSDA RESET

AFC

LPRFCLK_I

RFCLK_I

TXC TXP

TXIOUTP TXIOUTN

TXQOUTP TXQOUTN

HOR_TEMP

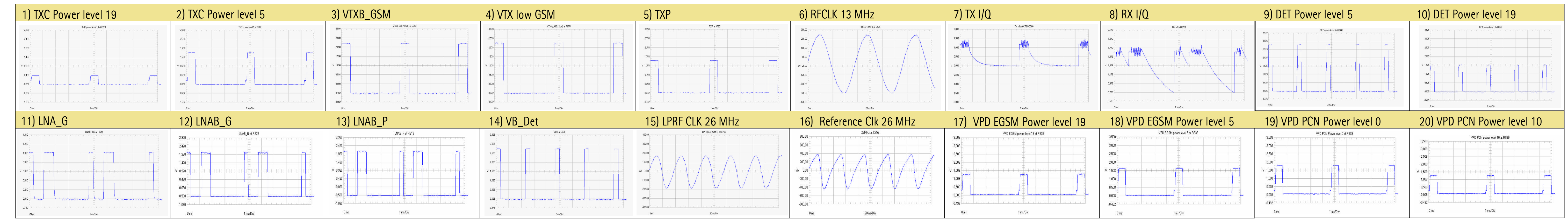
VBATTRF_

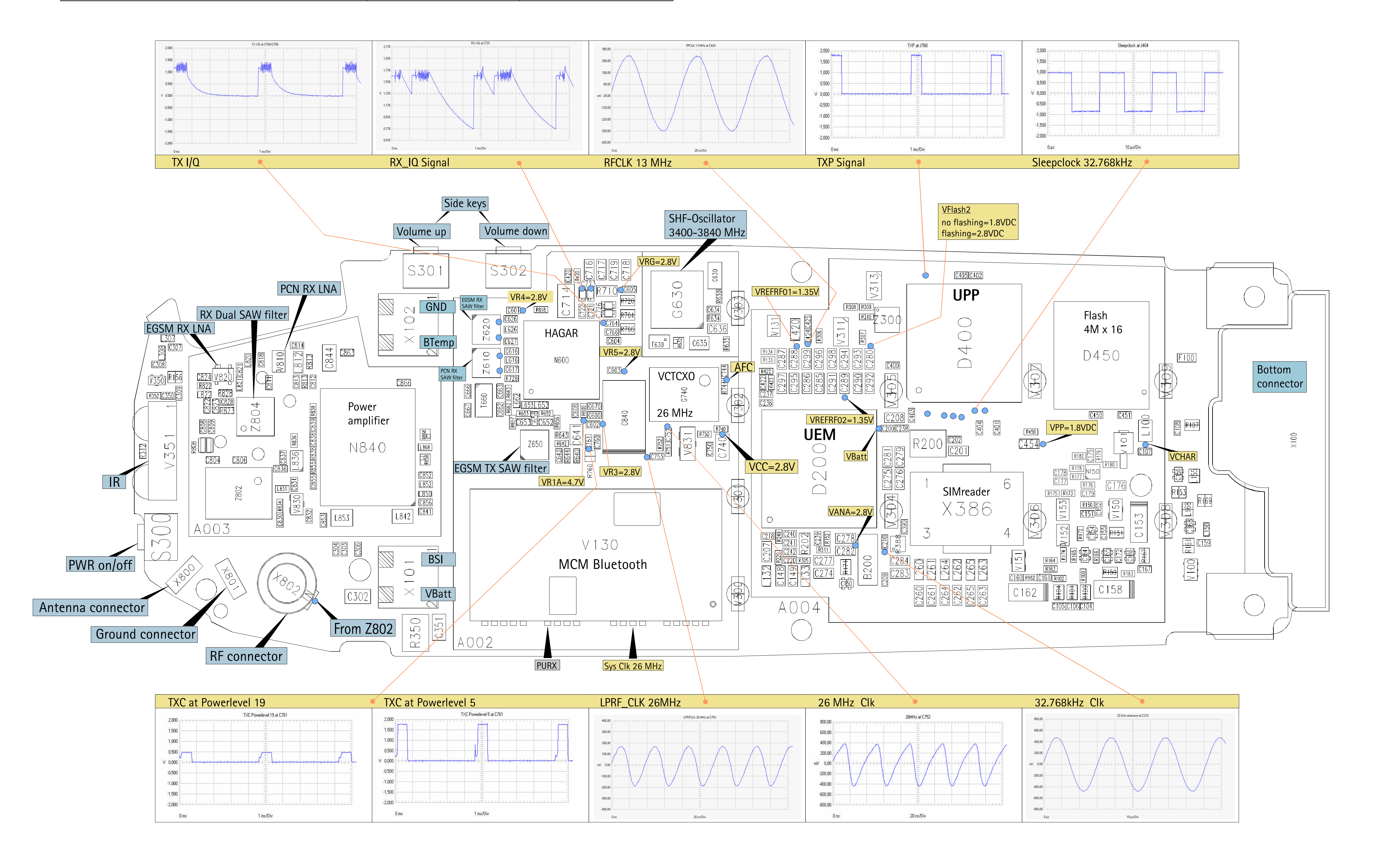
UEM

UPP

V130 BT 26MHz

UPP 13MHz





TX I/Q
RX_IQ Signal
RFCLK 13 MHz
TXP Signal
Sleepclock 32.768kHz
Side keys
Volume up
Volume down
SHF-Oscillator
3400-3840 MHz
VFlash2
no flashing=1.8VDC
flashing=2.8VDC
PCN RX LNA
RX Dual SAW filter
EGSM RX LNA
GND
BTemp
VR4=2.8V
VRG=2.8V
VREFRF01=1.35V
HAGAR
N600
VR5=2.8V
AFC
VCTCXO
26 MHz
UPP
D400
Flash
4M x 16
D450
Bottom connector
Power amplifier
N840
UEM
D200
VREFRF02=1.35V
VPP=1.8VDC
VBatt
VCC=2.8V
VCHAR
EGSM TX SAW filter
VR1A=4.7V
VR3=2.8V
IR
SIMreader
X386
VANA=2.8V
V130
MCM Bluetooth
PWR on/off
BSI
VBatt
Antenna connector
Ground connector
From Z802
RF connector
PURX
Sys Clk 26 MHz
A003
A002
A004
TXC at Powerlevel 19
TXC at Powerlevel 5
LPRF_CLK 26MHz
26 MHz Clk
32.768kHz Clk

B	C161 - D6	C210 - C5	C279 - C5	C302 - D2	C450 - B6	C662 - B3	C760 - B3	C836 - C1	L100 - B6	L820 - B1	R133 - B4	R175 - C6	R352 - B1	R710 - A3	R855 - C2	V302 - B4	X800 - D1
B200	C164 - C6	C220 - D4	C281 - C5	C304 - C2	C454 - B6	C666 - B2	C764 - A3	C838 - B2	L132 - D4	L821 - B1	R134 - B4	R176 - C6	R388 - C5	R728 - B3	R858 - C2	V303 - A4	X801 - D1
C	C165 - C6	C390 - C5	C282 - B5	C306 - C2	C600 - B3	C667 - B2	C766 - A3	C839 - B2	L133 - D4	L831 - C1	R151 - C6	R178 - C6	R422 - B4	R740 - B4	**S**	V305 - B5	**Z**
C104 - D6	C166 - C6	C400 - B5	C283 - D5	C307 - B1	C601 - A3	C670 - B3	C804 - C1	C840 - B3	L150 - C7	L836 - C2	R152 - C5	R179 - C6	R423 - B4	R744 - B4	S300 - C1	V306 - C6	Z300 - A5
C105 - D6	C167 - D6	C238 - B5	C284 - D5	C308 - B1	C602 - B3	C714 - A3	C806 - C1	C841 - C2	L155 - C7	L842 - C2	R153 - C7	R180 - C6	R450 - B6	R750 - B4	S301 - A2	V307 - B6	Z610 - B3
C106 - D6	C168 - C7	C239 - C4	C285 - B5	C309 - B1	C603 - B3	C716 - A3	C808 - B1	C844 - B2	L168 - C7	L850 - C2	R156 - B1	R182 - C6	R600 - B3	R751 - C4	S302 - A3	V308 - C6	Z620 - A3
C107 - C6	C172 - C6	C240 - C4	C286 - B4	C312 - D2	C604 - B3	C717 - A3	C809 - B1	C852 - C2	L260 - D4	L852 - C2	R159 - D6	R183 - D6	R630 - A4	R752 - B4	**T**	V309 - B6	Z650 - B3
C108 - B7	C175 - C6	C241 - C4	C287 - B4	C350 - B1	C605 - A3	C718 - A3	C811 - B1	C853 - C2	L261 - D4	L853 - C2	R160 - D6	R200 - B5	R632 - B4	R760 - C3	T630 - B4	V311 - A5	Z802 - C1
C148 - D4	C176 - C6	C242 - C4	C288 - B4	C351 - D2	C608 - B3	C719 - A3	C812 - B2	C863 - B2	L262 - D4	L868 - B2	R161 - C7	R202 - C4	R634 - C1	R764 - A3	T660 - B3	V313 - A5	Z804 - B1
C149 - D4	C177 - C6	C260 - D5	C289 - B5	C616 - B3	C626 - A3	C721 - A3	C855 - C2	C866 - B2	L263 - D4	**N**	R162 - D6	R220 - C4	R635 - B4	R766 - A3	**V**	V350 - B1	
C150 - D5	C178 - C6	C261 - D5	C290 - B5	C617 - B3	C627 - B3	C813 - B2	C856 - C2	**D**	L264 - D4	N150 - C6	R163 - D6	R240 - C4	R640 - C3	R808 - B1	V100 - D7	V351 - C1	
C151 - C6	C179 - C6	C262 - D5	C291 - B5	C401 - B6	C630 - A4	C814 - B2	C818 - B1	D200 - C5	L307 - B1	N600 - B3	R164 - D6	R305 - D4	R642 - B2	R812 - B2	V101 - B6	V810 - B1	
C152 - C6	C200 - B5	C263 - D5	C292 - B5	C402 - A5	C634 - A4	C722 - A3	C821 - B1	D400 - B5	L308 - B1	N840 - B2	R165 - C6	R306 - A5	R643 - B3	R813 - B2	V130 - C3	V820 - B1	
C153 - C6	C201 - C5	C264 - D5	C293 - B5	C403 - B5	C635 - B4	C723 - A3	C822 - B1	D450 - B6	L420 - A4	**R**	R166 - C6	R307 - A5	R644 - C3	R818 - A3	V131 - A4	V830 - C1	
C154 - C6	C202 - C4	C265 - D5	C294 - B5	C404 - B5	C636 - A4	C726 - A3	C823 - B1	**F**	L616 - B3	R100 - D6	R167 - C6	R308 - A5	R652 - B3	R822 - B1	V150 - C6	V831 - B4	
C155 - C6	C236 - B4	C274 - D5	C295 - B4	C405 - A5	C641 - B3	C740 - B4	C824 - B1	F100 - B7	L626 - A3	R101 - D6	R169 - C7	R309 - A5	R653 - B3	R823 - B1	V151 - D6	**X**	
C156 - C7	C237 - B4	C275 - C5	C296 - B4	C420 - A3	C642 - C3	C744 - B4	C828 - B1	**G**	L652 - B3	R102 - D6	R171 - D5	R310 - A5	R656 - B3	R828 - B1	V152 - C6	X100 - B7	
C158 - D6	C207 - C4	C276 - C5	C297 - B4	C422 - B4	C652 - B3	C750 - C4	C830 - C1	G630 - A4	L653 - B3	R104 - D6	R172 - C6	R311 - C5	R657 - B3	R836 - B2	V153 - C6	X101 - D2	
C159 - C7	C208 - B5	C277 - D5	C298 - B5	C424 - A4	C653 - B3	C752 - B4	C831 - C1	G740 - B4	L662 - B3	R107 - B7	R173 - C6	R312 - C1	R662 - B3	R838 - C2	V300 - D4	X102 - A2	
C160 - D6	C209 - D5	C278 - C5	C299 - B4	C425 - A4	C656 - B3	C753 - C4	C832 - C2	**L**	L812 - B2	R109 - D6	R174 - C6	R350 - D2	R663 - B3	R839 - B2	V301 - C4	X386 - C5	

